

the different species, which may ultimately have to be sorted out largely by this character. The other African species known to me all have more black on the hind wing above and on the under surface than *euryzona*.

This subfamily does not appear to me to belong to the *Noctuidae* at all, being very distinct, not only in the possession of a maxillary palpus but also in the hair-pencil on hind-tibia (entirely distinct in character from anything known to me in the true *Noctuidae*) and in the neuration of the fore wing, the cell being very narrow and near middle of wing, with SC^1 arising near base, SC^2 from well before middle of wing, SC^3 , SC^4 , SC^5 , and R^1 all free and more or less parallel with one another. The basal orifice of the abdomen does not appear to be at all in the Noctuid position.

IV.—NEW GEOMETRIDAE.

By L. B. PROUT, F.E.S.

HEMITHEINAE.

1. *Prasinocyma neglecta*, sp. nov. (Text fig. 17).



17. *Prasinocyma neglecta* ♂.

♂ ♀, 33, 36 mm.

Face dull red-brown, with a few green scales, below with a narrow white band. Palpus in ♂ about $1\frac{1}{2}$, with third joint moderate, in ♀ at least 2, with third joint long; first joint and underside of second and third white, second joint above light brown, third more reddish. Crown green, only extremely narrowly white in front; antennal shaft white to near middle, then light brown, more or less tinged with red; pectinations in ♀ moderate, light ochreous. Thorax and abdomen above green, beneath white; the abdomen with traces of minute white medio-

dorsal dots and with anal extremity white. Legs white, the first two pairs reddened on upper and inner sides; hind tibia of ♂ dilated, with very short terminal process, a short white tuft at femoro-tibial joint, and a fairly strong white hair-pencil.

Fore wing rather broad; SC¹ anastomosing slightly with C, or free, R¹ very shortly stalked, M¹ just separate; bright green, with moderately prominent white strigulae; costal edge pale buff, tinged, except towards base, with roseate; a moderate black cell-dot; a white spot or dash on middle of hind margin, nearly or quite reaching M², bordered distally with blackish; fringe nearly concolorous, with a pale line at base and indistinctly whitish tips.

Hind wing ample, termen moderately bent at R³; concolorous with fore wing, and with a similar black cell-dot; fringe as on fore wing.

Underside whitish-green, the fore wing in anterior half and the fringe of both wings rather greener; fore wing with costal edge narrowly buff.

East Tanganyika: Upper Ruvubu River, Urindi District, July and August, 1919. (T. A. Barns.) Type ♂ and allotype ♀, in coll. Joicey. Also a ♀ from Namadidi, ten miles from Zomba, Nyassaland, January, 1920 (H. Barlow).

A common and widely distributed species, which has been left mixed among *congrua* Walk., *pulchraria* Swinh., and other allies. Tring Museum has it from Nigeria, Angola, Unyoro, Uganda, British East Africa, and Nyassaland, the British Museum from Old Calabar (Swinhoe's "type ♀" of *pulchraria*!), Uganda, British East Africa, Nyassaland, and Transvaal. The markings are nearly those of *nigripunctata* Warr., *triflifimbria* Prout, &c., the bright coloration that of *pulchraria* Swinh., or the brighter specimens of *scissaria* Feld.

STERRHINAE.

2. *Eois oressigenes* sp. nov. (pl. XVIII, fig. 12).

♀, 26 mm.

Head red-orange, the fillet, lower extremity of face and palpus beneath yellower. Thorax and abdomen above red-orange, somewhat mottled, beneath paler, duller and more ochreous.

Fore wing with areole fairly large, subcostals normal, M¹ not stalked; yellow, nearly covered with a network of lunulate rust-red lines, which leave mere interneural spots of the ground-colour; markings blackish-

grey, with a slight tinge of slate-colour; antemedian at one-fifth, thick (apparently double but confluent), somewhat dentate outward on M and SM²; celldot blacker, at scarcely two-fifths; a regularly excurved line shortly beyond (at rather less than one-half), duplicated distally by a weaker, more macular, less defined line or shade; a row of interneural spots at nearly four-fifths, oblique outward from costa, otherwise nearly parallel with termen; thick longitudinal shades between the radials and near tornus, connecting these spots with the termen, the radial shade also faintly indicated proximally hereto (as far as to the median line); blackish terminal dots at the vein-ends.

Hind wing with termen full, or slightly bent about R³-M¹; M¹ just separate; markings of fore wing (except first line) continued; celldot wanting.

Underside duller, ochreous; the lunulate lines thinner, greyish; the dark markings nearly as above, though rather less strong.

Tanganyika: Niragongo Volcano, Kivu, 2,800 m., Sept., 1919. (T. A. Barns.)

Entirely distinct from any African species yet known, recalling some of the South American *Eois* (= *Cambogia*), e.g., *snellenaria* Möschl. (*Verh. Zool.-bot. Ges. Wien.* xxxi, 408, t. 17, fig. 19).

LARENTIINAE.

3. *Xanthorhoë latissima* sp. nov. (pl. XVIII, fig. 7).

♂, 33 mm.

Head and body dark fuscous. Face with the projecting cone rather strong. Palpus about two, the second joint with rough hair-scaling above and beneath, third joint moderate, partly exposed. Antennal pectinations well separated, reaching nearly to the thirtieth joint, nowhere very long (little over two). Tarsi pale at the ends of the joints.

Fore wing unusually broad, costa well arched in distal part, termen slightly waved, at least anteriorly; pale violet, with slight whitish admixture; basal area suffused with olive-brown, separated by a fine pale line from a straightish oblique band of similar suffusion nearly 2 mm. in width; median band velvety black-brown, very broad (6 mm. at costa, just over 3 mm. at hind margin), bordered by rather fine whitish lines; the antemedian oblique outward, with a small V-shaped indentation subcostally and minute indentations on M and SM²; the postmedian slightly sinuous subcostally, markedly oblique outward in

anterior half, forming a rounded lobe not far from termen at and behind R^3 , then bending suddenly inward, so as to reduce the band to about half its width; subterminal not very strong, consisting of fine whitish lunules, filled in proximally by ill-defined brown spots; a very much larger spot at costa reaching nearly to the postmedian; distal area feebly dark-shaded; terminal line not very strong, slightly interrupted at the veins and folds; more brownish, with fine weak pale lines at base and beyond middle.

Hind wing ample; apex well rounded, termen straighter before and behind than at R^3 ; dark-grey with very slight whitish irroration; costal area more white-mixed; a black celldot; a double, fine whitish postmedian line continuing that of fore wing, fairly straight to R^3 or M^1 rather near termen, here strongly bent, near abdominal margin slightly incurved; faint traces of other lines; terminal line finer than on forewing; fringe similar.

Fore wing beneath duller; median band greyish, not sharply-defined, especially proximally, but containing distinct beginnings of dark lines costally; postmedian double pale line fairly strong; subterminal well defined, at least anteriorly, where the lunules are confluent; termen and fringe as above. Hind wing beneath with more of a red-brown tinge than above, rippled as far as the postmedian with feeble lines; celldot, postmedian and subterminal lines developed.

"Central Africa," without more exact locality. (T. A. Barns.)

4. *Larentia barnsi* sp. nov. (pl. XVIII, fig. 5).

♂, 31-34 mm.

Closely like *heteromorpha* Hmps. (Tr. Zool. Soc. xix. (2) 128), apparently identical in structure, possibly a colour-form of it, but constant. Both wings deep ochreous, only the hind wing above slightly paler ochreous. Fore wing above with the markings on an average darker than in *heteromorpha*, generally strongly expressed, the edgings near the median band pale, the small V-shaped subterminal spots also pale, often in part whitish. Hind wing above almost unicolorous, with the markings of underside feebly showing through; a fairly distinct celldot sometimes present. Both wings beneath rather strongly marked, the postmedian line of the hind wing perhaps less acutely angulated on R^3 than in *heteromorpha*.

Ruwenzori (W. side) at 4,000 m. (one at 3,900), flying by day, Christmas, 1919, the type labelled as feeding on giant lobelias. 7 ♂♂ in coll. Joicey.

The distal margin of the hind wing is nearly smooth, not crenulate as in the type of the genus (*clavaria* Haw).

5. *Larentia altipeta* sp. nov. (pl. XVIII, fig. 6).

♀, 31 mm.

Head and body grey-brown with some black irroration and in places (especially on the face, vertex and breast) strongly irrorated with white; first joint of palpus white. Abdomen above with white (dorsal) and black (subdorsal) spots on anterior segments.

Fore wing shaped and coloured as in *monticolata* Auriv. (Schwed. Zool. Exped. Kilim. (9) 44, t. 2, f. 23), brown clouded with velvety-black, especially at the borders of the basal and median areas; markings closely similar to those of *monticolata*, differing as follows: outer edge of basal patch almost straight, only with a slight inward curve between fold and SM²; proximal edge of median area rather less oblique at costa, but rather more oblique at hind margin; distal edge of median area not dentate (except minutely on SM³), formed almost as in *sjöstedti* Auriv.; a more pronounced subtriangular black patch between SC⁵ and R³, bounded anteriorly by a white line; oblique apical line sharply differentiated; fringe strongly chequered (lost in the only example of *monticolata* known to me).

Hind wing grey, more feebly marked than in *monticolata*.

Ruwenzori, 3,000 m., Christmas, 1919. (T. A. Barns.)

L. sjöstedti Auriv. (loc. cit. p. 45, t. 2, f. 20), not so well figured and described as most of Aurivillius' Kilimanjaro species, is unknown to me and perhaps still nearer to *altipeta*, though the figure does not at all suggest it. In any case it cannot be identical, for—*inter alia*—it is said to have the proximal edge of the median area "almost straight between the costal margin and the middle of cellule 1b." In the species compared the ♂ antenna is not pectinate, but I suspect it will prove to be pectinate in *altipeta*, as in *inaequata* Walk.

6. *Calostigia conchulata* sp. nov. (pl. XVIII, fig. 15).

♂, 23 mm.

Head spotted with brown; face pale ochreous-grey with small projecting cone of scales. Palpus about two, strong, with projecting hair-scales; mixed with dark fuscous on outer side. Antenna pectinate from the third to about the twenty-fourth joint, with rather long, well-separated branches, distally merely dentate and ciliate. Thorax and

abdomen concolorous with wings; abdomen with paired (subconfluent) dark spots. Legs pale ochreous-grey, more or less dark-spotted on upper and inner sides.

Fore wing glossy-whitish, with light grey-brown suffusions; costal margin as far as postmedian (with the exception of narrow pale median space) dark-spotted; markings grey-brown; basal patch slightly darkened, bounded by a strong, nearly vertical wavy dark line; median band of moderate width, bounded by slightly crenulate wavy dark lines, the antemedian slightly and regularly excurved throughout, the postmedian slightly sinuous, straightest between the radials, very gently excurved between M^2 and SM^2 , with no marked lobe in middle; three faint lines of dark irroration indicated between basal patch and median line; two lines proximally, and apparently three distally indicated on the median band, connected and obscured by dark shading; only a small patch around the minute celldot (reaching costa) and narrow interrupted streak from this to hind margin remaining pale; a narrow white band (clearest proximally) beyond the postmedian, intersected by a very faint dark line; distal area irregularly suffused, bounded (at least proximally) by an ill-defined and irregular dark line; subterminal line lunulate-dentate, only developed anteriorly, where it is filled in proximally with ill-defined dark spots; a (not very conspicuous) white dash at apex, the terminal clouding darkest behind this; terminal line indicated by paired dots at the veins; fringe nearly unicolorous.

Hind wing glossy; dirty white, unmarked, except for some slight spots at abdominal margin.

Fore wing beneath slightly suffused from base to postmedian, costally darker, with irregular irroration from base to postmedian and (more weakly) near termen; a celldot and postmedian line indicated, the latter strongest between M^1 and abdominal margin.

Tanganyika: Niragongo, Kivu, October, 1919. (T. A. Barns.)

A nearly unmarked specimen taken at the same time and place (at 4000 m.) is perhaps a form of the same species, perhaps a near ally. Rather larger and rounder-winged, the celldot of fore wing less minute, the postmedian line apparently rather more curved. Without more material I do not venture to name it or pronounce definitely on its status. Both specimens show the palpal and antennal structures of *Xanthorhoë conchata* Warr. and bear (except for the biangulate discocellulars of the hind wing) a good deal of resemblance to that species; smaller, fore wing and underside paler (not reddish), wings rather shorter; the pale colour is almost that of *Epirrhoë cancellata* Warr. (Nov. Zool. vi. 299) and *annulifera* Warr. (Nov. Zool. ix. 515),

7. *Calostigia phiara* sp. nov. (pl. XVIII, fig. 9).

♂, 30 mm.

Structure closely as in *conchulata* Prout (supra). Shape and facies more as in *Euphyia altispex* Prout. Face brown, mixed with black. Palpus brown, at base whitish. Vertex and thorax mottled whitish and brown. Abdomen whitish with dark irroration and some brown dorsal spots. Legs nearly concolorous.

Fore wing glossy white with a tinge of brown; markings dark grey-brown, in costal region (especially the basal patch) a little brighter and more red-brown; basal patch dentate outward subcostally and bluntly bent outward in middle; median band 6 mm. broad at costa, 3 at hind margin, its proximal edge angled inward at fold, its distal slightly incurved at R^2 , rather acutely angled behind R^3 , then oblique inward to M^2 ; celldot small, black; distal shades similar to those of *altispex*, termen posteriorly as dark distally to subterminal as proximally; terminal line thick, slightly interrupted at and midway between veins; fringes dark proximally, less so distally, with a fine paler dividing-line.

Hind wing with DC weakly biangulate; glossy-whitish, with the markings of underside very faintly showing; termen with dark paired dots in posterior part only; fringe grey-brown, slightly paler than on fore wing but similarly divided.

Underside similar, except in its less brown colour, smaller cellspots, less inbent postmedian, and whiter subterminal, to that of *Euphyia altispex*; terminal line and fringes nearly as above.

Congo Belge: East side of Semliki River, Ruwenzori, 2300 m., November, 1919. (T. A. Barns.)

Except in absence of green colouring rather similar to *Xanthorhoe argenteolineata* Auriv. (Schwed. Zool. Exped. Kilim., (9) p. 46, t. ii, f. 17), which has dentate-ciliate ♂ antenna, non-biangulate discocellulars, etc.

8. *Euphyia altispex* sp. nov. (pl. XVIII, fig. 10).

♂, 34 mm.

Face with slight projecting cone of scales; whitish brown-grey, with strong irroration. Palpus almost 2; largely black, the first joint and extreme tip pale-mixed. Crown and proximal part of antenna black-mixed; antenna triangularly scaled, giving a minutely subserrate appearance; ciliation minute. Collar somewhat ferruginous. Thorax and abdomen whitish-grey, black-mixed; a clear ferruginous spot at base of abdomen dorsally. Legs partly irrorated, partly infuscated.

Fore wing with costa gently arched, termen faintly sinuous; white, mostly with dense fuscous irroration; basal area formed of denser irroration, more tinged with reddish, bounded by an outwardly oblique white line, which is angled behind SM^2 , and thence runs inward to hind margin; median band weak, red-brown (mixed reddish and dark fuscous), the central part less red than the proximal and distal; broad anteriorly, edged by moderately thick white lines, the antemedian oblique outward from less than one-third costa, angled outward in cell (thence less oblique) and again at fold, almost vertical posteriorly, the postmedian from about two-thirds costa, indented on the veins (deeply on SC^5), approximately perpendicular to the lobe at R^3 , then oblique inward to M^2 , thence slightly oblique outward, the portion posterior to M^2 thus considerably narrowed; cellspot black, elongate, with some white scales round it; a curved dark line (defined by a pale spot at costa) beyond cellspot, bounding the less red area; space beyond postmedian traversed by thick whitish and slender incomplete fuscous lines, the veins tinged with buff and red scales; a white longitudinal streak in front of R^1 , leading to the slenderer, more interrupted whitish apical streak; the area in front of these streaks more mottled; subterminal line fairly thick, white, interrupted, weakly lunulate, defined by dark markings proximally; a triangular dark terminal shade behind apical dash, its apex on R^2 , its posterior extremity just behind R^3 ; diffused reddish vein-spots at termen; terminal line strongly blackish-fuscous, scarcely interrupted; fringe strongly chequered.

Hind wing white, tinged as far as the postmedian line with greyish; celldot black; postmedian line grey, feeble anteriorly, less so posteriorly, where it is incurved about M^2 ; terminal line weaker and more interrupted than on fore wing; fringe whitish, very feebly marked.

Both wings beneath strongly marked, with elongate black cellspot, well marked postmedian (inbent at R^2 and lobed outward about R^3) and pale (whitish-brown) distal area, with broad reddish-brown (or red-grey) proximal shades to the subterminal, that of fore wing mixed with blackish in the anterior half; fore wing with glossy smoky suffusion from base to postmedian, the costal margin more ochreous-brown and with traces of the anterior dark terminal shade; hind wing as far as the postmedian irrorated with reddish-grey, and with indications of dark transverse lines; fringes as above.

Congo Belge: Vissoke Volcano, Mikeno Mountains, Kivu, October, 1919. (T. A. Barns.) Type in coll. Joicey.

A smaller and duller ♂ from Nirango Volcano, Kivu, Tanganyika

Territory, 4,000 m., September, 1919 (T. A. Barns) has the central band almost unmixed with red.

This species slightly recalls an overgrown *Epirrhoë submaculata* Warr. (Nov. Zool. ix. 515).

9. *Epirrhoë euthygramma* sp. nov. (pl. XVIII, fig. 8).

♂, 27 mm.

Head and palpus pale clay-colour, heavily irrorated with black, the palpus towards its extremity predominantly black. Antenna pubescent. Collar fawn-colour. Thorax and abdomen pale clay-colour, more tinged with cinnamon above than beneath, above (excepting base of abdomen) with some ill-defined grey cloudings; abdomen with one or two appreciable grey crests anteriorly. Legs partly infuscated, especially the fore leg, on which the pale extremities of the tarsal joints are rather conspicuous by contrast.

Fore wing rather broad, apex rather pronounced, termen straightish to middle, then slightly curved, becoming rather more oblique; pale clay-colour; basal area with some slight dark irroration and slightly dark-shaded costally; subbasal line double, straight, exceedingly fine and weak; median band broad, limited by pure white lines; the ante-median straight, from hind margin at about one-third, nearly vertical, obsolete in front of SC; the postmedian with a very slight proximal curve at costa, minute subcostal indentation, scarcely noticeable sinuosity at the usual positions, at hind margin slightly oblique outward; the band from the hind margin to near SC and SC⁵ velvety black-brown, anteriorly scarcely darker than the ground-colour (though more tinged with fawn) traversed by five grey lines; three dark lines (the first very fine) between the postmedian and the subterminal; subterminal pure white, interrupted by an oblique white dash from apex and a blackish cloud thence to R³; conspicuous, though rather less pure white patch between subterminal and termen from R³ to M²; terminal line black, interrupted by dots of the ground-colour on the veins and weakened or slightly interrupted midway between; fringe irregularly mottled with grey and with a fine whitish line beyond middle.

Hind wing rather paler and more greyish, almost uniform from base to postmedian but with slight indications (clearest at abdominal margin) of three or four wavy darker lines; postmedian fine, white, wavy at abdominal margin oblique outward; a fainter pale line just beyond; subterminal line and the distal blotch indicated behind R³; a small brown patch at abdominal margin just proximal to the subterminal; terminal line and fringe as on fore wing.

Both wings beneath suffused with ochreous, and moderately irrorated; small black celldots; most of the markings of upper side indicated, but weak, the postmedian clearest, very finely dark, whitish-edged distally, the dark part of the central fascia scarcely differentiated (slightly grey, especially behind M^2).

Congo Belge: Mikeno Mountain, N. Kivu, October, 1919. (T. A. Barns.) Type in coll. Joicey.

10. *Hydrelia sjöstedti mionoseista* subsp. nov. (Text fig. 18).



18. *Hydrelia sjöstedti mionoseista* ♂.

♂.

Distinguished from the name—typical form of *sjöstedti* Auriv. (Schwed. Zool. Exped. Kilim. (9) p. 42, t. ii, fig. 26, from Kilimanjaro) by having the dark parts slightly less blackish-grey with a stronger slaty gloss, fore wing with a fine, nearly straight white antemedian line present (as in *argyridia* Butl. and *disparata* Warr. Nov. Zool. iv, t. v, fig. 12), median band distally, and especially the white band beyond it, less extremely projecting than in *sjöstedti*, the distal area consequently of more uniform width throughout; hind wing with the angulated median line extremely faint or obsolete; both wings with the fringes paler, being dirty whitish, on the proximal half chequered with grey opposite the veins (in *sjöstedti* almost uniform black-grey in proximal half, white-grey or dirty whitish in distal).

Mikeno Mountain, N. Kivu, Congo Belge, August, 1919. (T. A. Barns) type and another ♂; Karissimbi, Kivu, September, 1919, one ♂. In coll. Joicey, collected by Mr. T. A. Barns.

11. *Asthenotricha semidivisa euchroma* subsp. nov. (pl. XVIII, fig. 22).

♂, 25 mm.

Rather larger than *semidivisa* Warr.* (Nov. Zool. viii. 11) from Uganda and more brightly coloured, the pale stramineous parts of

* Warren's type measures barely 24 mm., not "26 mm." as given.

the fore wing, excepting the tornal region, being irregularly suffused with bright ochreous and reddish, the median area mostly bright red-purple with pale patches at costa and blackish lines; celldots with a broad white circumscription except at proximal edge, where there are only a few white scales; the white again defined by a fine blackish line; oblique streak along R^3 thick, variegated with purple and reddish.

Underside whitish, with the dark marking rather strongly expressed in glossy grey.

Congo Belge: Mikenno Mountain, N. Kivu, October, 1919. (T. A. Barns.) Type in coll. Joicey.

12. *Asthenotricha straba* sp. nov. (pl. XVIII, fig. 11).

♂, 25-26 mm.

Very similar to the preceding, differing as follows:—

Distal margins slightly more crenulate. Ground-colour more uniformly suffused on both wings with bright ochreous. Fore wing with the lines finer; an angulated subbasal line sharply expressed (subbasal area suffused and blurred in *semidivisa*); median area more broadly posteriorly, the suffusions from cellspot to hind margin predominantly black; celldot much smaller, placed close to the proximal margin of the white spot; postmedian line forming a V-shaped angle outward on R^1 ; longitudinal line of distal area very thin, blackish; a fine, uninterrupted terminal line. Hind wing with the hair tuft highly developed, bright ochreous, only with a few dark hairs; proximal band irrorated with blackish; terminal line as on fore wing.

Congo Belge: Mikenno Mountain, N. Kivu, October, 1919 (type). Tanganyika: Niragongo Volcano, Kivu, September, 1919.

I have also seen this species from Mount Kenya and Mount Aberdare.

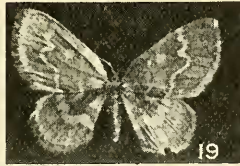
13. *Asthenotricha malostigma* sp. nov. (Text fig. 19).

♂, 29 mm.

Head, thorax and abdomen pale grey, the collar somewhat more brownish.

Fore wing broad; glossy grey (of the same colour as *Hydrelia costalis* Auriv., from Kilimanjaro) with the markings white; ante-median line thicker and more distinct anteriorly and posteriorly than

in middle, oblique outward from before one-third costa, sharply angulated subcostally near the cellspot, then approximately vertical to just beyond one-third hind margin, but angulated outward on fold; cellspot rather large (over 1 mm. in diameter), round, followed posteriorly by a vague brownish patch; postmedian line thick, at about two-thirds, rather deeply inbent and thickened between the radials, lobed outward at R^3-M^1 , then gradually receding to behind M^2 , so as to suggest a long shallow curve inward between M^1 and SM^2 ; terminal dark line slight, interrupted; fringe concolorous, distally rather paler.



19. *Asthenotricha malostigma* ♂.

Hind wing grey, slightly darker proximally; hair-tuft ochreous-brown; antemedian line wanting; cellspot more proximal, placed in anterior corner of cell, followed at abdominal margin by a white patch; postmedian still thicker than on fore wing, its inward bend at the radials slighter than the posterior one; faint indications of a thinner line beyond.

Underside similar, but with the *fore* wing darker especially proximally, its first line wanting, a whitish hind-marginal patch developed opposite the cellspot.

Vissoke Volcano, Kivu, 2600 m., October, 1919. (T. A. Barns.)
Type in coll. Joicey.

14. *Lobidiopteryx stulta* sp. nov. (pl. XVIII, fig. 20).

♂, 37 mm.

Head and body yellowish olivaceous (possibly slightly discoloured). Palpus not quite $1\frac{1}{2}$ (shorter than in the type species, *L. veninotata* Warr., Nov. Zool. ix. 513), the longish hair of proximal half cream-colour to cream-buff, as also the hair of pectus. Fore leg alternately black and pale, the black parts the more extended.

Wings—especially the hind wing—rather shorter than in *veninotata*.

Fore wing much paler (yellowish-olivaceous, almost entirely without black scaling), the markings much weaker, being merely

deeper olivaceous; a small patch of blackish irroration between the bases of the median veins.

Hind wing with SC^2-R^1 slightly longer-stalked than in Warren's type; also pale but with a slight fleshy tinge; quite without markings.

Underside similar, the fore wing with the markings still more indefinite, apically rather more smoky.

Ituri Forest, Central Semliki Watershed, N.W. of Beni, Congo Belge, January, 1920. (T. A. Barns.) Attracted by lamp.

15. *Cleora inaequipicta*, sp. nov. (pl. XVIII, fig. 14).

♂, 34 mm.

Head brown, the face darker brown. Palpus rather short, first joint with long projecting hair-scales below, second joint with moderately projecting scales, third joint very small, not distinct, blackish. Antenna not long, pectinate from base to about thirty-second joint, the branches long; apical joints (about six) merely dentate with slight ciliation. Thorax brown, mottled above with dark brown, the metathorax with black-brown. Abdomen brown, mottled (especially on sides) with black-brown; dorsally narrowly whitish, with rather large paired blackish spots. Fore and middle legs mottled with blackish; (hind legs lost).

Wings shaped nearly as in narrow-winged *cinctaria* Schiff., the hind wing slightly more convex about R^3-M^1 ; the fore wing not crenulate; the hind wing scarcely so, but with a feeble sinuosity between the radials.

Fore wing with SC^1 and SC^2 both free; fovea well developed; whitish-brown, with black-brown irroration, the veins in part, a vague patch round the fovea and an ill-defined band outside the postmedian mixed with ochreous; proximal area moderately and median area strongly and broadly clouded with black-brown, obscuring the markings; postmedian scarcely defined except by the ochreous band which follows it, arising in a spot at two-thirds costa, incurved subcostally, bluntly lobed outside cell, very slightly incurved behind; subterminal line whitish, fine and not very distinct anteriorly and posteriorly, broader and more strongly lunulate-dentate between R^3 and M^2 ; irregular dark shades proximally to this line and (especially between the radials and at tornus) distally; terminal line thick, black, slightly interrupted at the veins; fringe with dark chequering opposite the veins.

Hind wing predominantly pale, the dark irroration sparser, ochreous cloudings scarcely indicated; a black cell-dot; a regularly crenulate

dark postmedian line (curved nearly parallel with termen) little beyond; a thick median shade arising at abdominal margin in contact with the postmedian, touching the proximal side of celldot, becoming obsolescent anteriorly; the subterminal line and its dark shadings only well developed from tornus to R^1 ; terminal line and fringe as on fore wing.

Fore wing beneath pale brown, with dark cloudings as far as the postmedian and proximally to the subterminal, but less strong than above; terminal line more slender, more punctiform or macular; fringe sharply chequered. Hind wing beneath with similar markings to upperside but rather weaker.

Lufira Valley, November and December, 1918. (T. A. Barns.) Type in coll. Joicey.

16. *Pitthea sospes* sp. nov. (pl. XVIII, fig. 13).

♂, 42 mm.

Face white, with the overhanging tufts black. Palpus black, the first joint bright orange beneath. Vertex and antenna black, the pectinations rather heavy. Thorax black, beneath with some orange admixture. Abdomen above black, beneath mostly orange. Fore coxa and all femora with conspicuous white spot at base, that of hind femur the smallest.

Fore wing rather broader than in *neavei* Prout; black, with the bands deeper orange at their borders than in *neavei*; antemedian much broader, reaching base between the black costal edge and cell, its breadth throughout approximately 5 mm., its distal edge minutely dentate outward on SC, M and fold; outer band also broader than in *neavei*, reaching costal margin.

Hind wing with the band deep orange, on upperside nearly as ample as on underside, where it resembles that of *neavei*; beneath, in addition, with an orange line along a great part of SM^3 .

N. Rhodesia: Chambezi Valley, Karunga River, 4,500 ft., January, 1917. (T. A. Barns.) Type in coll. Joicey. There are also two examples in the British Museum, collected by the late Mr. H. C. Dollman, in the Solwezi district, N.W. Rhodesia.

17. *Pitthea neavei aurantifascia* subsp. nov. (pl. XVIII, fig. 2).

♂ ♀, 37—40 mm.

Only distinguishable from *n. neavei* Prout (Nov. Zool. xxii, 374, Nyassaland), by the colouring of the bands, but this quite constant.

Fore wing with the bases subtranslucent whitish, rather glossy, only becoming orange at the extremities and the veins.

Hind wing with the band orange-yellow, not at all red.

Underside also with the colouring somewhat paler than in the Nyassaland type.

Lake Tshohoa, Ruanda District, Tanganyika Territory, August, 1919 (T. A. Barns). 4 ♂♂ (including the type) and 1 ♀ allotype (quite similar except for the shorter antennal pectinations) in coll. Joicey.

18. *Terina tanyeces* sp. nov. (pl. XVIII, fig. 21).

♂, 34 mm.

Face yellowish-white, purer white at lower edge, the upper part with a large central grey cloud. Palpus white, second joint tinged with yellowish, third joint mixed with black-grey. Vertex and collar black-grey. Antenna black. Thorax and abdomen yellowish-white. Coxae and femora mixed with yellow; fore and middle legs largely blackened above; hind tarsus slightly tinged with grey.

Fore wing white, proximally suffused with yellow; a small golden-orange basal patch in front of cell and slight longitudinal streaks or lines of the same in and behind cell; an ample but very irregular black border, commencing in a very fine line at base of costa, broadening so as to cross SC at 4—5 mm. from base, distally occupying on an average about half of the wing, but with very long teeth of the ground-colour projecting in cell (almost to DC) and behind M² from its origin (tapering to a point on fold close to termen) and a subsidiary curved tooth running out from the last-named in front of M² near its origin; a long oval white spot between the radials, nearer to DC than to termen; fringe black.

Hind wing white; a black apical patch, about 5 mm. long, proximally bounded behind by SC², distally reaching half-way to R¹; a much smaller black terminal patch (large spot) on M¹; fringe white, slightly encroached upon by the two black patches.

Fore wing beneath with the orange basal patch rather larger; the white ground-colour more extended in posterior part of wing, absorbing the black prong between the two posterior teeth and a great part of the black hind-marginal border (which, however, remains slightly greyish by transparency). Hind wing beneath as above, but with a very small orange costal patch at base.

Belgian Congo: Itoa River, Ituri Forest, Congo-Semliki Watershed, January, 1920. (T. A. Barns.)

Belongs to the group of *octogesa* Druce (Proc. Zool. Soc. Lond. 1887, p. 672, t. 55, f. 1, Cameroons), *flavibasis* Warr. (Nov. Zool. iv., 241, Cameroons), *incisa* Holl. (Ent. News, iv., 60, Gaboon), and *meliorata* Prout (Nov. Zool. xxii, 372, Gaboon), which may possibly, when sufficient material is available for study, prove forms of one protean species.

19. *Ereunetea acrogyra* sp. nov. (pl. XVIII, figs. 3, 4).

♀, 34 mm.

Head deep flesh-colour. Palpus with inner side paler, terminal joint blackish. Antenna black. Thorax above grey with a tinge of flesh-colour, beneath more flesh-colour. Abdomen above mostly orange, on sides grey mixed with flesh-colour, beneath paler. Legs predominantly grey.

Fore wing orange, with costal margin grey, broadly (reaching SC) for basal two-fifths, then very narrowly; apical area broadly black, at costa reaching from apex inwards for nearly 8 mm., at tornus terminating in a point at SM²; its proximal edge shallowly concave between DC and M²; fringe grey.

Hind wing orange, with the black apical patch small, roundish-oval, reaching only from apex to radial fold, at its broadest point (between SC² and R¹) only measuring 3 mm. across; fringe paler orange, grey-mixed opposite the apical patch.

Fore wing beneath orange, with the grey costal border bounded by C, the apical patch predominantly purplish, bounded proximally by a rather narrow deep-black band which arises behind DC¹ and R¹, continues (though tapering to a point) to SM² and is more deeply concave in middle than the boundary of the black patch of upperside, leaving free the base of cellules 3 and 4 (the latter, however, black-dotted). Hind wing beneath only orange at abdominal margin, otherwise grey (with slight fleshy admixture) proximally, rosy-purplish distally, with a breadth of 4 mm. at costa, decreasing to less than 2 mm. posteriorly; a more rosy line or narrow shade at proximal edge of this border shows an outward bend behind R¹ analogous to the bend of the black band of fore wing; a small blackish celldot, which is also, on close observation, traceable on upper surface.

Mkoma Mountains, S. Urindi District, E. Tanganyika, 1,600 m., July, 1919. (T. A. Barns.)

Nearest to *orientalis* Prout (Nov. Zool. xxii, 370), which has, in rare aberrations, the apical patch of the hind wing equally short, but

in that case far narrower—almost linear—and which further differs in having the cellspot of the hind wing always sharply marked above, the underside of the hind wing less purple distally.

20. *Annemopsyche charmione lufira* Prout.

Ann. & Mag. Nat. Hist. (9) v. 292 (1920).

We figure on pl. XVIII, fig. 1, the type ♂ of this already described subspecies, which was discovered by Mr. Barns on the Lufira River in February-April, 1919. Five ♂♂ and one ♀ were taken.

21. *Zamarada hero* sp. nov. (pl. XVIII, fig. 23).

♂, 30 mm.

Head pale ochreous-brown with dark irroration. Antenna pectinate to a little beyond middle, with moderate branches; pale brown, with dark spots. Thorax above violet-grey with brown irroration. Abdomen above with the brown preponderating; first segment with a white spot; third and fourth with very pale yellowish ones. Body beneath, with legs, pale yellowish-brown. Abdomen beneath anteriorly hairy; hind femur with longish light hair, tibia short and thick, with long dense hair-tuft predominantly blackish, posteriorly becoming pale and less long.

Fore wing elongate (nearly as in *melpomene* Oberth., Et. Lep. vi., t. 152, fig. 1460); pale subdiaphanous green, almost free from dark speckling, except on a part of hind margin; costal margin brown, with metallic blue-grey irroration, which is strongest proximally; celldot small; distal border 4.5 mm. wide anteriorly, 2 mm. at M^1 , the sinus obliquely bounded from R^3 to near M^1 and curving so gently posteriorly as to form no appreciable angle at M^2 ; the proximal boundary-line black, very finely edged proximally with yellow and distally edged with metallic-bluish irroration; border largely violaceous, at apex paler and browner, at distal margin posteriorly with ill-defined spots of the same; subterminal line yellowish-white, broad and deeply dentate from SC^4 to R^3 , then obsolete, reappearing behind M^2 as a broad subtornal streak, similar to that of *melpomene*; bright red-brown triangles and line proximal to the subterminal; terminal line fine, black; fringe ochreous, with dark spots opposite the veins. Hind wing similar.

Underside with costal margins brighter ochreous-brown, distal borders wholly blackish, only with a small pale apical spot on fore wing; the yellow line proximally to the border rather thicker and

paler; celldot of fore wing rather longer than above; fringes as above.

Congo River, below Lisala, May, 1920. Attracted to lamp. (T. A. Barns.)

22. *Zamarada enippe* sp. nov. (pl. XVIII, fig. 24).

♂, 34 mm.

Head ochreous, mixed (especially on face and palpus) with red-brown. Antenna bipectinate for well under one-half its length, the branches moderate; pale ochreous, the pectinations spotted with black-grey. Thorax and abdomen above violet-grey, the latter with small pale ochreous-brown mediodorsal spot; beneath, with anal tuft, ochreous-brown. Middle and hind legs rather paler; hind tibia dilated, with a groove enclosing a strong blackish hair-tuft.

Fore wing translucent green, slightly paler than *translucida* Moore; costal margin bright golden-ochreous, with metallic leaden spots and dots; abdominal margin with some grey suffusion to near the outer line, continuing anteriorly as lines of very weak (and progressively weaker) irroration as far as M and M², on which they form a few dark dots; no cell-mark; distal border about 4 mm. wide from costa to R², little over 1 mm. in middle, 3 to 2 mm. posteriorly, chocolate slightly mixed with violet-grey and bearing anteriorly and posteriorly deep black spots proximally to the subterminal, the three between SC⁴ and R² largest, sharply triangular, the subterminal itself only indicated by some thin whitish irroration; proximal boundary line of this border deep black, very finely yellow-edged proximally, from SC⁴ to R² weakly lunulate, to R³ oblique, the following bay rather strong but with its corners slightly rounded off; fringe lighter brown, weakly chequered.

Hind wing with the border rather narrower (especially anteriorly), otherwise similar.

Both wings beneath with the border almost uniformly darkened with black-grey, only towards tornus of hind wing becoming paler.

Congo Belge: Kinchasa, Congo River, May, 1920. Attracted to lamp. (T. A. Barns.)

Belongs to the group of *flavicosta* Warr. (Nov. Zool. iv., 122), larger, with differently shaped borders and wanting the cellspot. Except in its much larger size it rather nearly resembles Saalmuller's figure (Lep. Madag. (2) t. xiv, f. 65) which he quite erroneously calls *reflexaria* Walk, and with which I have not yet made acquaint-

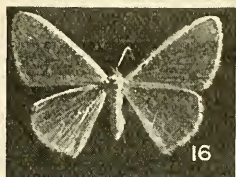
EXPLANATION OF PLATE XVIII.

- Fig. 1. *Annemopsyche charmione lufira* ♂.
2. *Pitthea neavi aurantifascia* ♂.
3. *Ereunetea acrogyra* ♀.
4. „ „ (underside).
5. *Larentia barnsi* ♂.
6. „ *altipeta* ♀.
7. *Xanthorhoë latissima* ♂.
8. *Epirrhoë euthygramma* ♂.
9. *Calostigia phiara* ♂.
10. *Euphyia altispez* ♂.
11. *Asthenotricha straba* ♂.
12. *Eois oressigenes* ♀.
13. *Pitthea sospes* ♂.
14. *Cleora inaequipicta* ♂.
15. *Calostigia conchulata* ♂.
20. *Lobidiopteryx stulta* ♂.
21. *Terina tanyeces* ♂.
22. *Asthenotricha semidivisa euchroma* ♂.
23. *Zamarada hero* ♂.
24. „ *enippe* ♂.



ance in nature; the figure, however, shows the presence of small cell-dots, and less yellow costa and slightly narrower borders, which widen rather than narrow at tornus.

23. *Zamarada acosmeta* sp. nov. (Text fig. 16).



16. *Zamarada acosmeta* ♀.

♀, 30—32 mm.

Head light brown, the face, vertex and base of antenna more or less strongly mixed with red-brown; palpus, excepting the first joint, somewhat dark-spotted. Thorax and abdomen very pale ochreous-grey with a tinge of green (especially dorsally); metathorax and abdomen with ill-defined reddish dorsal stripe or row of spots.

Fore wing very pale translucent-green, the wing-membrane showing violet reflections; grey irroration coarse but not very dense, mostly arranged so as vaguely to suggest strigulae; costal margin inclining to buff, rather heavily dark-spotted anteriorly; celldot very minute; distal border purple-grey, excessively narrow, the crenulate reddish (in part black-mixed) line which bounds it proximally almost touching the termen between the veins posteriorly to R^2 and being nowhere more than 1 mm. distant therefrom.

Hind wing similar, except costally; terminal line in anterior part less dentate proximally on veins. Under side with the buff costal margin only dark irrorated proximally; distal borders blackish, shaped as above.

East Tanganyika, Urindi District: Upper Ruvubu River, July—August, 1919 (type); Lumpungu River, Malagarassi Valley, July, 1919 (paratype).
